

Elliot Epstein

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EDUCATION

Stanford University <i>Ph.D. in Computational and Mathematical Engineering</i> <i>Master of Science in Computational and Mathematical Engineering (GPA: 4.10/4.30)</i> <ul style="list-style-type: none">Coursework: Numerical Linear Algebra, Reinforcement Learning, Natural Language Processing, Optimization, Discrete Mathematics and Algorithms, Numerical and Theoretical PDEs, Stochastic Methods, Computer Systems, Theory of Statistics I-II, Probabilistic Graphical Models, Launchpad, Stanford IgniteAnticipated Coursework: Deep Generative Models, Data Mining, Parallel Computing, Bayesian Statistics	Stanford, California Jul. 2022 – Jun. 2025 Sep. 2021 – Jun. 2025
University of Oxford <i>Master of Science in Mathematical and Computational Finance</i>	Oxford, United Kingdom Sep. 2020 – Jul. 2021
KTH Royal Institute of Technology <i>Bachelor of Science in Engineering Physics (GPA: 4.94/5.00)</i>	Stockholm, Sweden Aug. 2017 – Aug. 2020
ETH Zurich <i>Exchange Student, Department of Mathematics</i> <ul style="list-style-type: none">Thesis: “A Review of the Article <i>Gradient Descent Provably Optimizes Over-parametrized Neural Networks</i>”	Zurich, Switzerland Sep. 2019 – Aug. 2020

WORK EXPERIENCE

Google <i>PhD Software Engineering Intern, Gemini</i> <ul style="list-style-type: none">Outcome: Research paper “MMMT-IF: A Challenging Multimodal Multi-Turn Instruction Following Benchmark”Research paper approved for submission to ICLR 2025 <i>Student Researcher</i> <i>Software Engineering Intern</i> <ul style="list-style-type: none">Worked on an LLM based chatbot for enterprise solutions	Sunnyvale, California & Seattle, Washington Jun. 2024 – Sep. 2024 Oct. 2023 – Jan. 2024 Jun. 2023 – Sep. 2023
Stanford University <i>Research Assistant</i> <ul style="list-style-type: none">Long sequence modeling with Prof. Christopher Re in the Stanford AI Lab <i>Research Assistant</i> <ul style="list-style-type: none">Machine learning to solve PDEs in Prof. Eric Darve’s lab	Stanford, California Sep. 2022 – Apr. 2023 Apr. 2022 – Sep. 2022
EDF Trading <i>Intern, Quant and Data Group</i> <ul style="list-style-type: none">Developed a model in Python to predict the direction of the next trade of day ahead gas futures with over 70 percent accuracy using LOB data and an ensemble of LSTM networks trained on multiple GPUs in the cloudBuilt a web application to display real time predictions from neural network and random forest models to predict the 15-minute ahead closing price of month ahead gas futures	London, United Kingdom Apr. 2021 – Aug. 2021
Karolinska Institute <i>Research Assistant</i> <ul style="list-style-type: none">Developed a deep learning model to differentiate benign from malignant ovarian tumors, with specificity and sensitivity on par with an expert ultrasound examiner	Stockholm, Sweden Aug. 2019 – Apr. 2021

TEACHING

Stanford University <i>Course Assistant</i> <ul style="list-style-type: none"><i>Applied Data Science (CME 218)</i>: Mentoring graduate students working on machine learning projects<i>Partial Differential Equations (MATH 220)</i><i>Machine Learning (CS 229)</i>: Supervised learning (deep learning), unsupervised learning, reinforcement learning<i>Financial Risk Analytics (MS&E 246)</i>: Statistics and machine learning applied to credit marketsAdvanced Investment Science (<i>MS&E 245B</i>)	Stanford, California Jun. 2022 – Jun. 2024
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PUBLICATIONS

Elliot L. Epstein*, Daniel Y. Fu*, Eric Nguyen, Armin W. Thomas, Michael Zhang, Tri Dao, Atri Rudra, and Christopher Re. Simple Hardware-Efficient Long Convolutions for Sequence Modeling
In *ICML: Fortieth International Conference On Machine Learning*, July 2023
In *Mathematical and Empirical Understanding of Foundation Models workshop at ICLR*, 2023

F Christiansen, **E L Epstein**, E Smedberg, M Åkerlund, K Smith, E Epstein. Ultrasound image analysis using deep neural networks for discriminating between benign and malignant ovarian tumors: comparison with expert subjective assessment
In *Ultrasound Obstet Gynecol*, 2021

SKILLS

Technical (in order of proficiency): Python (NumPy, PyTorch, Jax, TensorFlow, Keras, LangChain, pandas, Flask, Gym, Horovod), C++, C, MATLAB, Latex, Linux, GitHub, Bloomberg Terminal, GCP, Assembly, AWS, Docker, R